

Title (en)

FUEL CELL ELECTRODE HAVING POROUS CARBON CORE WITH MACROCYCLIC METAL CHELATES THEREON

Title (de)

BRENNSTOFFZELLENELEKTRODE MIT EINEM PORÖSEN KOHLENSTOFFKERN MIT MAKROZYKLISCHEN METALLCHELATEN DARAUFG

Title (fr)

ÉLECTRODE DE PILE À COMBUSTIBLE AYANT UN NOYAU DE CARBONE POREUX PORTANT DES CHÉLATES MÉTALLIQUES MACROCYCLIQUES

Publication

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Application

EP 11839236 A 20111114

Priority

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Abstract (en)

[origin: WO2012064279A1] The invention concerns a method for manufacturing of an electrocatalyst comprising a porous carbon support material, a catalytic material in the form of at least one type of metal, and macrocyclic compounds chemically bound to the carbon support and capable of forming complexes with single metal ions of said metal or metals, said method comprising the steps of: i) providing a template capable of acting as pore structure directing agent during formation of a highly porous electrically conducting templated carbon substrate, ii) mixing the template with one or several precursor substances of the catalytic material, the macrocyclic compounds and carbon, iii) exposing the mixture of the template and the precursor substances to a carbonization process during which the precursors react and transform the mixture into a carbonized template composite in which the carbon part of the composite is chemically bound to macrocyclic compounds present in complexes with the metal or metals. The invention also concerns an electrocatalyst for electrochemical reactions, a method for manufacturing of a membrane electrode assembly using such an electrocatalyst and to a fuel cell making use of such an electrocatalyst.

IPC 8 full level

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